

Refine Search

Search Results -

Terms	Documents
telecommunication and (bill\$ with mechanism) and @pd<=20000121	4

Database: US Pre-Grant Publication Full-Text Database
 US Patents Full-Text Database
 US OCR Full-Text Database
 EPO Abstracts Database
 JPO Abstracts Database
 Derwent World Patents Index
 IBM Technical Disclosure Bulletins

Search:

Search History

DATE: Tuesday, July 13, 2004 [Printable Copy](#) [Create Case](#)**Set Name** Query

side by side

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result set

*DB=EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=OR*L5 telecommunication and (bill\$ with mechanism) and @pd<=20000121 4 L5L4 L3 and telecommunication 0 L4*DB=USPT; THES=ASSIGNEE; PLUR=YES; OP=OR*L3 (bill\$ with mechanism) and @pd<=20000121 1199 L3L2 L1 and bill\$ 1 L2L1 5634012.pn. 1 L1

END OF SEARCH HISTORY

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[Generate OACS](#)

Search Results - Record(s) 1 through 4 of 4 returned.

1. Document ID: FI 113224 B1, WO 9821676 A1, FI 9604524 A, AU 9748712 A, CN 1240523 A, BR 9713014 A, US 6047051 A, EP 1012760 A1, NZ 335701 A, AU 730689 B, AU 200151910 A, AU 759926 B, RU 2212057 C2

-: Invalid display element.

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Claims](#) [KMC](#) [Draw. Des](#)

2. Document ID: CA 2136368 A, MX 190852 B, US 5592539 A, CA 2136368 C

-: Invalid display element.

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Claims](#) [KMC](#) [Draw. Des](#)

3. Document ID: WO 9400864 A1, AU 9347702 A, EP 648372 A1, CN 1082256 A, JP 07508397 W, BR 9306641 A

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[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Claims](#) [KMC](#) [Draw. Des](#)

4. Document ID: US 20040093305 A1, WO 9302422 A1, AU 9224285 A, US 5383113 A, US 5873072 A, US 20010044776 A1, US 20020062282 A1, US 20020065773 A1, US 20040064407 A1, US 20040064408 A1, US 20040064409 A1, US 20040064410 A1, US 20040078329 A1, US 20040083167 A1, US 20040083171 A1

-: Invalid display element.

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Claims](#) [KMC](#) [Draw. Des](#)

[Clear](#)[Generate Collection](#)[Print](#)[Fwd Refs](#)[Bkwd Refs](#)[Generate OACS](#)

Terms	Documents
telecommunication and (bill\$ with mechanism) and @pd<=20000121	4

Display Format: [Change Format](#)

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End of Result Set

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L5: Entry 4 of 4

File: DWPI

May 13, 2004

DERWENT-ACC-NO: 1993-058962

DERWENT-WEEK: 200432

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TITLE: Computer system for bill payment at consumer instruction - includes access device used by consumer to access computer system from remote location, with bill payment made at consumer's instructions

INVENTOR: CHRISTENSON, T K; COOK, K ; JOHNSON, M A ; KIGHT, P J ; LACH, R ;
POINTER, P ; LACK, R ; KITCHEN, W C ; KIGHT, P ; KITCHEN, W

PATENT-ASSIGNEE: CHECKFREE CORP (CHECN), JOHNSON M A (JOHNI), KIGHT P J (KIGHI),
KITCHEN W C (KITCI), KIGHT P (KIGHI), KITCHEN W (KITCI)

PRIORITY-DATA: 1991US-0736071 (July 25, 1991), 1995US-0372620 (January 13, 1995),
1999US-0250675 (February 16, 1999), 2001US-0877192 (June 11, 2001), 1999US-0250711
(February 16, 1999), 2001US-0025897 (December 26, 2001), 2001US-0999903 (December
26, 2001), 1998US-0034561 (March 3, 1998), 2001US-0795314 (March 1, 2001), 2003US-
0608413 (November 24, 2003), 2003US-0608414 (November 24, 2003), 2003US-0608433
(June 30, 2003), 2003US-0608439 (June 30, 2003), 2003US-0608548 (December 1, 2003),
2003US-0608420 (June 30, 2003), 2003US-0697288 (October 31, 2003), 2003US-0697114
(October 31, 2003)

[Search Selected](#) [Search All](#) [Clear](#)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
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<input type="checkbox"/> WO 9302422 A1	February 4, 1993	E	025	G06F015/00
<input type="checkbox"/> AU 9224285 A	February 23, 1993		000	
<input type="checkbox"/> US 5383113 A	January 17, 1995		016	G06F015/21
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<input type="checkbox"/> US 20020065773 A1	May 30, 2002		000	G06F017/60
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<input checked="" type="checkbox"/> US 20040083171 A1	April 29, 2004	000	G06F017/60

DESIGNATED-STATES: AU JP AT BE CH DE DK ES FR GB GR IT LU MC NL SE

CITED-DOCUMENTS: 2.Jnl.Ref; US 4799156

APPLICATION-DATA:

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US20040093305A1	February 16, 1999	1999US-0250711	Cont of
US20040093305A1	October 31, 2003	2003US-0697114	
US20040093305A1		US 5383113	Cont of
US20040093305A1		US 5873072	Cont of
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AU 9224285A	July 8, 1992	1992AU-0024285	
AU 9224285A		WO 9302422	Based on
US 5383113A	July 25, 1991	1991US-0736071	
US 5873072A	July 25, 1991	1991US-0736071	Cont of
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US20010044776A1	January 13, 1995	1995US-0372620	Cont of
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US20040064410A1	March 3, 1998	1998US-0034561	Div ex
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US20040083167A1	March 3, 1998	1998US-0034561	Div ex
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US20040083171A1	October 31, 2003	2003US-0697288	

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US20040083171A1

US 5383113 Cont of
US 5873072 Cont of

20040083167 A1 , US 20040083171 A1 INT-CL (IPC): G06 F 15/00; G06 F 15/21; G06 F 17/60; G06 F 151/00

RELATED-ACC-NO: 2001-549470;2002-130114 ;2002-216144 ;2002-239126 ;2002-443439 ;2002-443440 ;2002-443441 ;2002-443442 ;2002-488940 ;2002-499393 ;2003-090404 ;2003-353507

ABSTRACTED-PUB-NO: US 5383113A
BASIC-ABSTRACT:

The computer system includes an input device for inputting consumer's information into the computer system which relates to the consumer's financial institution and billing entities to be paid, and memory stores for storing the information, and for defining and storing mathematical interrelationships relating to the information.

The computer system further includes an access device used by the consumer to electronically access the system from a remote location and instruct a service provider to pay the consumer's bills. A control mechanism is provided for enabling the service provider to make payment to the billing entities.

ADVANTAGE - More efficient and cost-effective.

ABSTRACTED-PUB-NO: US 5873072A
EQUIVALENT-ABSTRACTS:

A financial institutions database has specific information pertaining to the consumers' financial institutions at which consumers maintain accounts and from which accounts payments to the billing entities may be made. A billing entities database has specific information pertaining to the billing entities to be paid. At least one remote telecommunications device is operable by a consumer to be in communication with a central processing unit operated by said service provided.

A program directs the operations of the central processing unit to analyse instructions received from the consumer through the telecommunications device and includes a unit for identifying a preferred form of payment drawn on the consumer's account at the financial institution with respect to payments to be effected to said billing entities. A assembly effects payment of the bills on behalf of the consumer's accounts, to the bililing entities, the payments to be made from the consumer's account at the financial institution, whether or not the service provider is a bank.

ADVANTAGE - A consumer may instruct a service provider by telephone, computer terminal, or other telecommunications; to pay various bills without the consumer having to write a check for each bill. The system operates without restriction as to where the consumer banks and what bills are to be paid.

The computer system includes an input device for inputting consumer's information into the computer system which relates to the consumer's financial institution and billing entities to be paid, and memory stores for storing the information, and for defining and storing mathematical interrelationships relating to the information.

The computer system further includes an access device used by the consumer to electronically access the system from a remote location and instruct a sefvice

provider to pay the consumer's bills. A control mechanism is provided for enabling the service provider to make payment to the billing entities.

ADVANTAGE - More efficient and cost-effective.

US20010044776A

The computer system includes an input device for inputting consumer's information into the computer system which relates to the consumer's financial institution and billing entities to be paid, and memory stores for storing the information, and for defining and storing mathematical interrelationships relating to the information.

The computer system further includes an access device used by the consumer to electronically access the system from a remote location and instruct a service provider to pay the consumer's bills. A control mechanism is provided for enabling the service provider to make payment to the billing entities.

ADVANTAGE - More efficient and cost-effective.

US20020062282A

The computer system includes an input device for inputting consumer's information into the computer system which relates to the consumer's financial institution and billing entities to be paid, and memory stores for storing the information, and for defining and storing mathematical interrelationships relating to the information.

The computer system further includes an access device used by the consumer to electronically access the system from a remote location and instruct a service provider to pay the consumer's bills. A control mechanism is provided for enabling the service provider to make payment to the billing entities.

ADVANTAGE - More efficient and cost-effective.

US20020065773A

The computer system includes an input device for inputting consumer's information into the computer system which relates to the consumer's financial institution and billing entities to be paid, and memory stores for storing the information, and for defining and storing mathematical interrelationships relating to the information.

The computer system further includes an access device used by the consumer to electronically access the system from a remote location and instruct a service provider to pay the consumer's bills. A control mechanism is provided for enabling the service provider to make payment to the billing entities.

ADVANTAGE - More efficient and cost-effective.

WO 9302422A

CHOSEN-DRAWING: Dwg.1/5 Dwg.5/5

DERWENT-CLASS: T01 T05

EPI-CODES: T01-J05A1; T05-L02;

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L5: Entry 4 of 4

File: DWPI

May 13, 2004

DERWENT-ACC-NO: 1993-058962

DERWENT-WEEK: 200432

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TITLE: Computer system for bill payment at consumer instruction - includes access device used by consumer to access computer system from remote location, with bill payment made at consumer's instructions

Basic Abstract Text (2):

The computer system further includes an access device used by the consumer to electronically access the system from a remote location and instruct a service provider to pay the consumer's bills. A control mechanism is provided for enabling the service provider to make payment to the billing entities.

PF Publication Date (2):19930204**PF Publication Date (3):**19930223**PF Publication Date (4):**19950117**PF Publication Date (5):**19990216**Equivalent Abstract Text (1):**

A financial institutions database has specific information pertaining to the consumers' financial institutions at which consumers maintain accounts and from which accounts payments to the billing entities may be made. A billing entities database has specific information pertaining to the billing entities to be paid. At least one remote telecommunications device is operable by a consumer to be in communication with a central processing unit operated by said service provided.

Equivalent Abstract Text (2):

A program directs the operations of the central processing unit to analyse instructions received from the consumer through the telecommunications device and includes a unit for identifying a preferred form of payment drawn on the consumer's account at the financial institution with respect to payments to be effected to said billing entities. A assembly effects payment of the bills on behalf of the consumer's accounts, to the billing entities, the payments to be made from the consumer's account at the financial institution, whether or not the service provider is a bank.

Equivalent Abstract Text (3):

ADVANTAGE - A consumer may instruct a service provider by telephone, computer terminal, or other telecommunications; to pay various bills without the consumer having to write a check for each bill. The system operates without restriction as to where the consumer banks and what bills are to be paid.

Equivalent Abstract Text (5):

The computer system further includes an access device used by the consumer to electronically access the system from a remote location and instruct a service provider to pay the consumer's bills. A control mechanism is provided for enabling the service provider to make payment to the billing entities.

Equivalent Abstract Text (8):

The computer system further includes an access device used by the consumer to electronically access the system from a remote location and instruct a service provider to pay the consumer's bills. A control mechanism is provided for enabling the service provider to make payment to the billing entities.

Equivalent Abstract Text (11):

The computer system further includes an access device used by the consumer to electronically access the system from a remote location and instruct a service provider to pay the consumer's bills. A control mechanism is provided for enabling the service provider to make payment to the billing entities.

Equivalent Abstract Text (14):

The computer system further includes an access device used by the consumer to electronically access the system from a remote location and instruct a service provider to pay the consumer's bills. A control mechanism is provided for enabling the service provider to make payment to the billing entities.

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L5: Entry 2 of 4

File: DWPI

Jul 1, 1995

DERWENT-ACC-NO: 1995-293505

DERWENT-WEEK: 200051

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TITLE: Air-to ground telephone call completing system - routes all calls made from aircraft to special purpose platform disposed in land-based telecommunications network which interacts with caller

INVENTOR: AMARANT, B B; BREDEN, E N ; DUNN, T A ; FUNK, M W ; KOCAN, S M ; MATHEWS, I L ; OCONNELL, K ; POLLMAN, M C ; O'CONNELL, K

PATENT-ASSIGNEE: AMERICAN TELEPHONE & TELEGRAPH CO (AMTT), AT & T CORP (AMTT), AT & T (AMTT)

PRIORITY-DATA: 1993US-0176006 (December 30, 1993)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
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<input type="checkbox"/> MX 190852 B	January 6, 1999		000	H04M015/000
<input type="checkbox"/> US 5592539 A	January 7, 1997		010	H04M015/00
<input type="checkbox"/> CA 2136368 C	April 4, 2000	E	000	H04B007/26

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
CA 2136368A	November 22, 1994	1994CA-2136368	
MX 190852B	December 16, 1994	1994MX-0009874	
US 5592539A	December 30, 1993	1993US-0176006	
CA 2136368C	November 22, 1994	1994CA-2136368	

INT-CL (IPC): H04 B 7/26; H04 M 15/00; H04 M 15/000; H04 M 17/00

ABSTRACTED-PUB-NO: CA 2136368A

BASIC-ABSTRACT:

The system is arranged so that a call originating from an aircraft is received in a ground station and directed to a special purpose platform disposed in the land-based telecommunications network. The platform, which may be implemented as an interactive voice response system, includes the capability to interact with the caller by collecting billing information, which may be a commercial credit card or a telephone calling card, or other billing mechanism which can be initiated by a request for connection to a telephone operator. Credit cards and telephone calling

cards are validated by initiating a query and receiving a response from elements in the telecommunications network or from an external database.

The platform provides auxiliary features such as block calling, free calls, speed dialling, sequence calling, etc. Depending upon the type of call involved, the call is completed as either a traditional 1+ long distance call, or as a 0+ (e.g., operator assisted) call. After completion of each call, an automated message accounting (AMA) billing record is created and transmitted to the network, for billing processing.

USE/ADVANTAGE - For communication between caller on aircraft and called party on ground. Does not require caller on airplane to have physical possession of credit or telephone calling card.

ABSTRACTED-PUB-NO: US 5592539A

EQUIVALENT-ABSTRACTS:

A system for completing air-to-ground telephone calls from a caller on an aircraft to a called party on the ground, said system comprising:

a special purpose platform disposed in the land-based telecommunications network,

means for routing all calls made from said aircraft to said platform, and

means in said platform for interacting with the caller, said platform including

(a) means for collecting billing information,

(b) means for validating said billing information in real time; and

(c) means responsive to said validation means, for completing the call as either a traditional 1+ long distance call, or as a 0+ operator assisted call.

CHOSEN-DRAWING: Dwg.1/5 Dwg.1/5

DERWENT-CLASS: T05 W01 W02 W06

EPI-CODES: T05-H05C; W01-B05A1; W01-C02B; W01-C06; W01-C07A5; W02-C03C3A; W06-B01B7;

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L5: Entry 2 of 4

File: DWPI

Jul 1, 1995

DERWENT-ACC-NO: 1995-293505

DERWENT-WEEK: 200051

COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Air-to ground telephone call completing system - routes all calls made from aircraft to special purpose platform disposed in land-based telecommunications network which interacts with caller

Basic Abstract Text (1):

The system is arranged so that a call originating from an aircraft is received in a ground station and directed to a special purpose platform disposed in the land-based telecommunications network. The platform, which may be implemented as an interactive voice response system, includes the capability to interact with the caller by collecting billing information, which may be a commercial credit card or a telephone calling card, or other billing mechanism which can be initiated by a request for connection to a telephone operator. Credit cards and telephone calling cards are validated by initiating a query and receiving a response from elements in the telecommunications network or from an external database.

PF Publication Date (1):19950701**PF Publication Date (2):**19990106**PF Publication Date (3):**19970107**Equivalent Abstract Text (2):**

a special purpose platform disposed in the land-based telecommunications network,

Standard Title Terms (1):

AIR GROUND TELEPHONE CALL COMPLETE SYSTEM ROUTE CALL MADE AIRCRAFT SPECIAL PURPOSE PLATFORM DISPOSABLE LAND BASED TELECOMMUNICATION NETWORK INTERACT CALL

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L5: Entry 1 of 4

File: DWPI

Mar 15, 2004

DERWENT-ACC-NO: 1998-298187

DERWENT-WEEK: 200420

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TITLE: Method for implementing charging in telecommunications network with CTs - involves generating charging record to network and forwarding charging record to billing mechanism for charging customer for selected service

INVENTOR: EKBERG, J; GINZBOORG, P ; YLA-JAASKI, A ; YLAE-JAEAESKI, A ; YLAE-JAEASKI, A

PATENT-ASSIGNEE: NOKIA NETWORKS OY (OYNO), NOKIA CORP (OYNO), NOKIA TELECOM OY (OYNO)

PRIORITY-DATA: 1996FI-0004524 (November 11, 1996), 2001AU-0051910 (June 14, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
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<input type="checkbox"/> WO 9821676 A1	May 22, 1998	E	042	G06F017/60
<input type="checkbox"/> FI 9604524 A	May 12, 1998		000	H04L000/00
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<input type="checkbox"/> CN 1240523 A	January 5, 2000		000	G06F017/60
<input type="checkbox"/> BR 9713014 A	January 25, 2000		000	G06F017/60
<input type="checkbox"/> US 6047051 A	April 4, 2000		000	H04M015/00
<input type="checkbox"/> EP 1012760 A1	June 28, 2000	E	000	G06F017/60
<input type="checkbox"/> NZ 335701 A	October 27, 2000		000	G06F017/60
<input type="checkbox"/> AU 730689 B	March 15, 2001		000	G06F017/60
<input type="checkbox"/> AU 200151910 A	September 6, 2001		000	H04M015/16
<input type="checkbox"/> AU 759926 B	May 1, 2003		000	H04M015/16
<input type="checkbox"/> RU 2212057 C2	September 10, 2003		000	G07F019/00

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW BE DE FR GB IT NL SE

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
FI 113224B1	November 11, 1996	1996FI-0004524	
FI 113224B1		FI 9604524	Previous Publ.
WO 9821676A1	November 11, 1997	1997WO-FI00685	
FI 9604524A	November 11, 1996	1996FI-0004524	
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AU 759926B		AU 200151910	Previous Publ.
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RU 2212057C2		WO 9821676	Based on

INT-CL (IPC): G06 F 17/60; G07 F 19/00; H04 L 0/00; H04 L 12/14; H04 M 15/00; H04 M 15/16; H04 M 15/36

ABSTRACTED-PUB-NO: US 6047051A

BASIC-ABSTRACT:

The method involves selecting a service using a CT, and carries out a negotiation concerning the terms of the service with the CT. It makes a delivery based on the selected service to the customer. A charging record (CDR) is generated to the network and forwarded to the billing mechanism (BS) for charging the customer for the selected service.

A separate billing server (WD) is used for charging the provided services in such a way that each CT has a dedicated billing server. A charging record is generated in the CT when the customer accepts the terms of service. The charging records generated by a CT are sent to the dedicated billing server of the CT. The billing servers of the network are used to transfer the charging records to the billing mechanism so that one billing server participates in transferring the charging

record(s) of the selected service.

USE - Relates to implementation of charging in telecommunication system and in particular to implementation of charging for multimedia services.

ADVANTAGE - Creates solution that makes it possible for example to use centralised charging for billing multimedia services utilising existing systems as efficiently as possible.

ABSTRACTED-PUB-NO: WO 9821676A

EQUIVALENT-ABSTRACTS:

The method involves selecting a service using a CT, and carries out a negotiation concerning the terms of the service with the CT. It makes a delivery based on the selected service to the customer. A charging record (CDR) is generated to the network and forwarded to the billing mechanism (BS) for charging the customer for the selected service.

A separate billing server (WD) is used for charging the provided services in such a way that each CT has a dedicated billing server. A charging record is generated in the CT when the customer accepts the terms of service. The charging records generated by a CT are sent to the dedicated billing server of the CT. The billing servers of the network are used to transfer the charging records to the billing mechanism so that one billing server participates in transferring the charging record(s) of the selected service.

USE - Relates to implementation of charging in telecommunication system and in particular to implementation of charging for multimedia services.

ADVANTAGE - Creates solution that makes it possible for example to use centralised charging for billing multimedia services utilising existing systems as efficiently as possible.

CHOSEN-DRAWING: Dwg.2/10

DERWENT-CLASS: T01

EPI-CODES: T01-H07C3D; T01-H07C5E; T01-J05A;

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L5: Entry 1 of 4

File: DWPI

Mar 15, 2004

DERWENT-ACC-NO: 1998-298187

DERWENT-WEEK: 200420

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TITLE: Method for implementing charging in telecommunications network with CTs - involves generating charging record to network and forwarding charging record to billing mechanism for charging customer for selected service

Basic Abstract Text (1):

The method involves selecting a service using a CT, and carries out a negotiation concerning the terms of the service with the CT. It makes a delivery based on the selected service to the customer. A charging record (CDR) is generated to the network and forwarded to the billing mechanism (BS) for charging the customer for the selected service.

Basic Abstract Text (2):

A separate billing server (WD) is used for charging the provided services in such a way that each CT has a dedicated billing server. A charging record is generated in the CT when the customer accepts the terms of service. The charging records generated by a CT are sent to the dedicated billing server of the CT. The billing servers of the network are used to transfer the charging records to the billing mechanism so that one billing server participates in transferring the charging record(s) of the selected service.

Basic Abstract Text (3):

USE - Relates to implementation of charging in telecommunication system and in particular to implementation of charging for multimedia services.

PF Publication Date (2):

19980522

PF Publication Date (3):

19980512

PF Publication Date (4):

19980603

PF Publication Date (5):

20000105

Equivalent Abstract Text (1):

The method involves selecting a service using a CT, and carries out a negotiation concerning the terms of the service with the CT. It makes a delivery based on the selected service to the customer. A charging record (CDR) is generated to the network and forwarded to the billing mechanism (BS) for charging the customer for the selected service.

Equivalent Abstract Text (2):

A separate billing server (WD) is used for charging the provided services in such a way that each CT has a dedicated billing server. A charging record is generated in

the CT when the customer accepts the terms of service. The charging records generated by a CT are sent to the dedicated billing server of the CT. The billing servers of the network are used to transfer the charging records to the billing mechanism so that one billing server participates in transferring the charging record(s) of the selected service.

Equivalent Abstract Text (3):

USE - Relates to implementation of charging in telecommunication system and in particular to implementation of charging for multimedia services.

Standard Title Terms (1):

METHOD IMPLEMENT CHARGE TELECOMMUNICATION NETWORK GENERATE CHARGE RECORD NETWORK FORWARDING CHARGE RECORD BILL MECHANISM CHARGE CUSTOMER SELECT SERVICE

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L2: Entry 1 of 1

File: USPT

May 27, 1997

US-PAT-NO: 5634012

DOCUMENT-IDENTIFIER: US 5634012 A

TITLE: System for controlling the distribution and use of digital works having a fee reporting mechanism

DATE-ISSUED: May 27, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Stefik; Mark J.	Woodside	CA		
Merkle; Ralph C.	Sunnyvale	CA		
Pirolli; Peter L. T.	El Cerrito	CA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Xerox Corporation	Stamford	CT			02

APPL-NO: 08/ 344773 [PALM]

DATE FILED: November 23, 1994

PARENT-CASE:

RELATED APPLICATIONS This application is related to the following co-pending and commonly assigned U.S. patent applications: Ser. No. 08/344,760, entitled "System For Controlling the Distribution and Use of Digital Works Using Digital Tickets" filed Nov. 23, 1994; Ser. No. 08/344,041, entitled "System For Controlling the Distribution And Use Of Digital Works Utilizing A Usage Rights Grammar" filed Nov. 23, 1994; Ser. No. 08/344,042, entitled "System For Controlling the Distribution and Use Of Digital Works" filed Nov. 23, 1994; and Ser. No. 08/344,776, entitled "System For Controlling the Distribution and Use of Composite Digital Works" filed Nov. 23, 1994.

INT-CL: [06] G06 F 17/60

US-CL-ISSUED: 395/239

US-CL-CURRENT: 705/39

FIELD-OF-SEARCH: 364/419, 364/19, 364/41R, 364/408

PRIOR-ART-DISCLOSED:

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[Search Selected](#) [Search All](#) [Clear](#)

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ART-UNIT: 241

PRIMARY-EXAMINER: McElheny, Jr.; Donald E.

ATTY-AGENT-FIRM: Domingo; Richard B.

ABSTRACT:

A fee accounting mechanism for reporting fees associated with the distribution and use of digital works. Usage rights and fees are attached to digital works. The

usage rights define how the digital work may be used or further distributed. Usage fees are specified as part of a usage right. The digital works and their usage rights and fees are stored in repositories. The repositories control access to the digital works. Upon determination that the exercise of a usage right requires a fee, the repository generates a fee reporting transaction. Fee reporting is done to a credit server. The credit server collects the fee information and periodically transmits it to a billing clearinghouse.

16 Claims, 20 Drawing figures

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L2: Entry 1 of 1

File: USPT

May 27, 1997

DOCUMENT-IDENTIFIER: US 5634012 A

TITLE: System for controlling the distribution and use of digital works having a fee reporting mechanism

Abstract Text (1):

A fee accounting mechanism for reporting fees associated with the distribution and use of digital works. Usage rights and fees are attached to digital works. The usage rights define how the digital work may be used or further distributed. Usage fees are specified as part of a usage right. The digital works and their usage rights and fees are stored in repositories. The repositories control access to the digital works. Upon determination that the exercise of a usage right requires a fee, the repository generates a fee reporting transaction. Fee reporting is done to a credit server. The credit server collects the fee information and periodically transmits it to a billing clearinghouse.

Brief Summary Text (19):

While flexibility in distribution is a concern, the owners of a work want to make sure they are paid for such distributions. In U.S. Pat. No. 4,977,594 to Shear, entitled "Database Usage Metering and Protection System and Method," a system for metering and billing for usage of information distributed on a CD-ROM is described. The system requires the addition of a billing module to the computer system. The billing module may operate in a number of different ways. First, it may periodically communicate billing data to a central billing facility, whereupon the user may be billed. Second, billing may occur by disconnecting the billing module and the user sending it to a central billing facility where the data is read and a user bill generated.

Brief Summary Text (21):

A system available from Wave Systems Corp. of Princeton, N.Y., provides for metering of software usage on a personal computer. The system is installed onto a computer and collects information on what software is in use, encrypts it and then transmits the information to a transaction center. From the transaction center, a bill is generated and sent to the user. The transaction center also maintains customer accounts so that licensing fees may be forwarded directly to the software providers. Software operating under this system must be modified so that usage can be accounted.

Brief Summary Text (22):

Known techniques for billing do not provide for billing of copies made of the work. For example, if data is copied from the CD-ROM described in Shear, any subsequent use of the copy of the information cannot be metered or billed. In other words, the means for billing runs with the media rather than the underlying work. It would be desirable to have a distribution system where the means for billing is always transported with the work.

Brief Summary Text (27):

Usage fee reporting is done to a credit server. The credit server collects the fee information and periodically transmits it to a billing clearinghouse.

Alternatively, the credit server may have a pre-allocated credit which is decremented as fees are incurred. In this alternative embodiment, the credit server would have to be periodically reallocated with credits to enable further use.

Detailed Description Text (23):

Billing Transactions

Detailed Description Text (46):

A system for controlling use and distribution of digital works is disclosed. The present invention is directed to supporting commercial transactions involving digital works. The transition to digital works profoundly and fundamentally changes how creativity and commerce can work. It changes the cost of transporting or storing works because digital property is almost "massless." Digital property can be transported at electronic speeds and requires almost no warehousing. Keeping an unlimited supply of virtual copies on hand requires essentially no more space than keeping one copy on hand. The digital medium also lowers the costs of alteration, reuse and billing.

Detailed Description Text (50):

The enforcement elements of the present invention are embodied in repositories. Among other things, repositories are used to store digital works, control access to digital works, bill for access to digital works and maintain the security and integrity of the system.

Detailed Description Text (51):

The combination of attached usage rights and repositories enable distinct advantages over prior systems. As noted in the prior art, payment of fees are primarily for the initial access. In such approaches, once a work has been read, computational control over that copy is gone. Metaphorically, "the content genie is out of the bottle and no more fees can be billed." In contrast, the present invention never separates the fee descriptions from the work. Thus, the digital work genie only moves from one trusted bottle (repository) to another, and all uses of copies are potentially controlled and billable.

Detailed Description Text (52):

FIG. 1 is a high level flowchart omitting various details but which demonstrates the basic operation of the present invention. Referring to FIG. 1, a creator creates a digital work, step 101. The creator will then determine appropriate usage rights and fees, attach them to the digital work, and store them in Repository 1, step 102. The determination of appropriate usage rights and fees will depend on various economic factors. The digital work remains securely in Repository 1 until a request for access is received. The request for access begins with a session initiation by another repository. Here a Repository 2 initiates a session with Repository 1, step 103. As will be described in greater detail below, this session initiation includes steps which helps to insure that the respective repositories are trustworthy. Assuming that a session can be established, Repository 2 may then request access to the Digital Work for a stated purpose, step 104. The purpose may be, for example, to print the digital work or to obtain a copy of the digital work. The purpose will correspond to a specific usage right. In any event, Repository 1 checks the usage rights associated with the digital work to determine if the access to the digital work may be granted, step 105. The check of the usage rights essentially involves a determination of whether a right associated with the access request has been attached to the digital work and if all conditions associated with the right are satisfied. If the access is denied, repository 1 terminates the session with an error message, step 106. If access is granted, repository 1 transmits the digital work to repository 2, step 107. Once the digital work has been transmitted to repository 2, repository 1 and 2 each generate billing information for the access which is transmitted to a credit server, step 108. Such double billing reporting is done to insure against attempts to circumvent the billing process.

Detailed Description Text (57):

FIG. 3 illustrates the repository 201 coupled to a credit server 301. The credit server 301 is a device which accumulates billing information for the repository 201. The credit server 301 communicates with repository 201 via billing transactions 302 to record billing transactions. Billing transactions are reported to a billing clearinghouse 303 by the credit server 301 on a periodic basis. The credit server 301 communicates to the billing clearinghouse 303 via clearinghouse transactions 304. The clearinghouse transactions 304 enable a secure and encrypted transmission of information to the billing clearinghouse 303.

Detailed Description Text (60):

FIG. 4a illustrates a printer as an example of a rendering system. Referring to FIG. 4, printer system 401 has contained therein a printer repository 402 and a print device 403. It should be noted that the dashed line defining printer system 401 defines a secure system boundary. Communications within the boundary is assumed to be secure. Depending on the security level, the boundary also represents a barrier intended to provide physical integrity. The printer repository 402 is an instantiation of the rendering repository 205 of FIG. 2. The printer repository 402 will in some instances contain an ephemeral copy of a digital work which remains until it is printed out by the print engine 403. In other instances, the printer repository 402 may contain digital works such as fonts, which will remain and can be billed based on use. This design assures that all communication lines between printers and printing devices are encrypted, unless they are within a physically secure boundary. This design feature eliminates a potential "fault" point through which the digital work could be improperly obtained. The printer device 403 represents the printer components used to create the printed output.

Detailed Description Text (62):

FIG. 4b is an example of a computer system as a rendering system. A computer system may constitute a "multi-function" device since it may execute digital works (e.g. software programs) and display digital works e.g. a digitized photograph). Logically, each rendering device can be viewed as having it's own repository, although only one physical repository is needed. Referring to FIG. 4b, a computer system 410 has contained therein a display/execution repository 411. The display/execution repository 411 is coupled to display device, 412 and execution device 413. The dashed box surrounding the computer system 410 represents a security boundary within which communications are assumed to be secure. The display/execution repository 411 is further coupled to a credit server 414 to report any fees to be billed for access to a digital work and a repository 415 for accessing digital works stored therein.

Detailed Description Text (64):

Usage rights are attached directly to digital works. Thus, it is important to understand the structure of a digital work. The structure of a digital work, in particular composite digital works, may be naturally organized into an acyclic structure such as a hierarchy. For example, a magazine has various articles and photographs which may have been created and are owned by different persons. Each of the articles and photographs may represent a node in a hierarchical structure. Consequently, controls, i.e. usage rights, may be placed on each node by the creator. By enabling control and fee billing to be associated with each node, a creator of a work can be assured that the rights and fees are not circumvented.

Detailed Description Text (72):

The approach for representing digital works by separating description data from content assumes that parts of a file are contiguous but takes no position on the actual representation of content. In particular, it is neutral to the question of whether content representation may take an object oriented approach. It would be natural to represent content as objects. In principle, it may be convenient to have content objects that include the billing structure and rights information that is

represented in the d-blocks. Such variations in the design of the representation are possible and are

Detailed Description Text (99):

The usage transactions handler 1303 comprise functionality for processing access requests to digital works and for billing fees based on access. The usage transactions supported will be different for each repository type. For example, it may not be necessary for some repositories to handle access requests for digital works.

Detailed Description Text (102):

For some digital works the losses caused by any individual instance of unauthorized copying is insignificant and the chief economic concern lies in assuring the convenience of access and low-overhead billing. In such cases, simple and inexpensive handheld repositories and network-based workstations may be suitable repositories, even though the measures and guarantees of security are modest.

Detailed Description Text (112):

A credit server is a computational system that reliably authorizes and records these transactions so that fees are billed and paid. The credit server reports fees to a billing clearinghouse. The billing clearinghouse manages the financial transactions as they occur. As a result, bills may be generated and accounts reconciled. Preferably, the credit server would store the fee transactions and periodically communicate via a network with billing clearinghouse for reconciliation. In such an embodiment, communications with the billing clearinghouse would be encrypted for integrity and security reasons. In another embodiment, the credit server acts as a "debit card" where transactions occur in "real-time" against a user account.

Detailed Description Text (114):

In the currently preferred embodiment credit servers associated with both the server and the repository report the financial transaction to the billing clearinghouse. For example, when a digital work is copied by one repository to another for a fee, credit servers coupled to each of the repositories will report the transaction to the billing clearinghouse. This is desirable in that it insures that a transaction will be accounted for in the event of some break in the communication between a credit server and the billing clearinghouse. However, some implementations may embody only a single credit server reporting the transaction to minimize transaction processing at the risk of losing some transactions.

Detailed Description Text (185):

The billing for use of a digital work is fundamental to a commercial distribution system. Grammar Element 1517 "Fee-Spec:={Scheduled-Discount}Regular-Fee-Spec.vertline.Scheduled-Fee-Spe c.vertline.Markup-Spec" provides a range of options for billing for the use of digital works.

Detailed Description Text (186):

A key feature of this approach is the development of low-overhead billing for transactions in potentially small amounts. Thus, it becomes feasible to collect fees of only a few cents each for thousands of transactions.

Detailed Description Text (195):

Grammar element 1523 "Call-For-Price-Spec:=Call-For-Price" is similar to a "Best-Price-Spec" in that it is intended to accommodate cases where prices are dynamic. A Call-For-Price Spec requires a communication with a dealer to determine the price. This option cannot be exercised if the repository cannot communicate with a dealer at the time that the right is exercised. It is based on a secure transaction whereby the dealer names a price to exercise the right and-passes along a deal certificate which is referenced or included in the billing process.

Detailed Description Text (256):

Billing Transactions

Detailed Description Text (257):

Billing Transactions are concerned with monetary transaction with a credit server. Billing Transaction are carried out when all other conditions are satisfied and a usage fee is required for granting the request. For the most part, billing transactions are well understood in the state of the art. These transactions are between a repository and a credit server, or between a credit server and a billing clearinghouse. Briefly, the required transactions include the following:

Detailed Description Text (259):

Registration and LOGIN transactions, by which a credit server establishes its bona fides to a billing clearinghouse.

Detailed Description Text (263):

A report-charges transaction between a personal credit server and a billing clearinghouse. This transaction is invoked at least once per billing period. It is used to pass along information about charges. On debit and credit cards, this transaction would also be used to update balance information and credit limits as needed.

Detailed Description Text (264):

All billing transactions are given a transaction ID and are reported to the credit servers by both the server and the client. This reduces possible loss of billing information if one of the parties to a transaction loses a banking card and provides a check against tampering with the system.

Detailed Description Text (278):

The common closing transaction steps are now performed. Each of the closing transaction steps are performed by the server after a successful completion of a transaction. Referring back to FIG. 18, the copies in use value for the requested right is decremented by the number of copies involved in the transaction, step 1817. Next, if the right had a metered usage fee specification, the server subtracts the elapsed time from the Remaining-Use-Time associated with the right for every part involved in the transaction, step 1818. Finally, if there are fee specifications associated with the right, the server initiates End-Charge financial transaction to confirm billing, step 1819.

Detailed Description Text (288):

If there are no more blocks to send, the server commits to the transaction and waits for the final Acknowledgement in state 1914. If there is a communications failure before the server receives the final Acknowledgement message, it still commits to the transaction but includes a report about the event to its credit server in state 1915. This report serves two purposes. It will help legitimize any claims by a user of having been billed for receiving digital works that were not completely received. Also it helps to identify repositories and communications lines that have suspicious patterns of use and interruption. The server then enters its completion state 1916.

Detailed Description Text (378):

The Directory transaction has the important role of passing along descriptions of the rights and fees associated with a digital work. When a user wants to exercise a right, the user interface of his repository implicitly makes a directory request to determine the versions of the right that are available. Typically these are presented to the user--such as with different choices of billing for exercising a right. Thus, many directory transactions are invisible to the user and are exercised as part of the normal process of exercising all rights.

Detailed Description Text (482):

This scenario is similar to the previous one. The difference is that the fee specification on the distributor's shell has provisions for changes in prices. For example, there could be a fee schedule so that copies made after the passage of time will require lower fees to be paid to the distributor. Alternatively, the distributor could employ a "best-price" billing option, using any algorithm he chooses to determine the fee up to the maximum specified in the shell.

Detailed Description Text (511):

This scenario is similar to the previous one except that the Copy right on the new work does not require a distribution license. The consumer can upgrade from any repository having the new version. He cannot upgrade more than once because the ticket cannot work after it has been punched. If desired, the repository can record the upgrade transaction by posting a zero cost bill to alert the creator that the upgrade has taken place.

Detailed Description Text (523):

This scenario just uses the capability of the approach to have multiple versions of a right on a digital work. Each version of the right has its own billing scheme. In this scenario, the creator of the work can offer the Copy right without fee, and defer billing to the exercise of the Play right. One version of the play right would allow a limited performance without fee--a right to "demo". Another version of the right could have a metered rate, of say \$.25 per hour of play. Another version could have a fee of \$15.00 for the first play, but no fee for further playing. When the consumer exercises a play right, he specifies which version of the right is being selected and is billed accordingly.

Detailed Description Text (526):

This scenario is performed as follows: the font designer creates a font as a digital work. He creates versions of the Play right that bill either for metered use or "per-use". Each version of the play right would require that the player (a print layout program) be of an approved category. The font designer assigns appropriate fees to exercise the Copy right. When a publisher client wants to use a font, he includes it as input to a layout program, and is billed automatically for its use. In this way, a publisher who makes little use of a font pays less than one who uses it a lot.

Detailed Description Text (528):

Online information retrieval services typically charge for access in a way that most clients find unpredictable and uncorrelated to value or information use. The fee depends on which databases are open, dial-up connect time, how long the searches require, and which articles are printed out. There are no provisions for extracting articles or photographs, no method for paying to reuse information in new works, no distinction between having the terminal sit idly versus actively searching for data, no distinction between reading articles on the screen and doing nothing, and higher rates per search when the centralized facility is busy and slow servicing other clients. Articles can not be offloaded to the client's machine for off-site search and printing. To offer such billing or the expanded services, the service company would need a secure way to account for and bill for how information is used.

Detailed Description Text (530):

The information service bundles its database as files in a repository. The information services company assigns different fees for different rights on the information files. For example, there could be a fee for copying a search database or a source file and a different fee for printing. These fees would be in addition to fees assigned by the original creator for the services. The fees for using information would be different for using them on the information service company's computers or the client's computers. This billing distinction would be controlled by having different versions of the rights, where the version for use on the service company's computer requires a digital certificate held locally. Fees for

copying or printing files would be handled in the usual way, by assigning fees to exercising those rights. The distinction between searching and viewing information would be made by having different "players" for the different functions. This distinction would be maintained on the client's computers as well as the service computers. Articles could be extracted for reuse under the control of Extract and Embed rights. Thus, if a client extracts part of an article or photograph, and then sells copies of a new digital work incorporating it, fees could automatically be collected both by the information service and earlier creators and distributors of the digital work. In this way, the information retrieval service could both offer a wider selection of services and billing that more accurately reflects the client's use of the information.

Detailed Description Text (532):

In the simplest scenario, when a user wants to print a digital document he issues a print command to the user interface. If the document has the appropriate rights and the conditions are satisfied, the user agrees to the fee and the document is printed. In other cases, the printer may be on a remote repository and it is convenient to spool the printing to a later time. This leads to several issues. The user requesting the printing wants to be sure that he is not billed for the printing until the document is actually printed. Restated, if he is billed at the time the print job is spooled but the job is canceled before printing is done, he does not want to pay. Another issue is that when spooling is permitted, there are now two times at which rights, conditions and fees could be checked: the time at which a print job is spooled and the time at which a print is made. As with all usage rights, it is possible to have rights that expire and to have rights whose fee depends on various conditions. What is needed is a means to check rights and conditions at the time that printing is actually done.

Detailed Description Text (533):

This scenario is performed as follows: A printing repository is a repository with the usual repository characteristics plus the hardware and software to enable printing. Suppose that a user logs into a home repository and wants to spool print jobs for a digital work at a remote printing repository. The user interface for this could treat this as a request to "spool" prints. Underneath this "spooling" request, however, are standard rights and requests. To support such requests, the creator of the work provides a Copy right, which can be used to copy the work to a printing repository. In the default case, this Copy right would have no fees associated for making the copy. However, the Next-Set-Of-Rights for the copy would only include the Print rights, with the usual fees for each variation of printing. This version of the Copy right could be called the "print spooling" version of the Copy right. The user's "spool request" is implemented as a Copy transaction to put a copy of the work on the printing repository, followed by Print transactions to create the prints of the work. In this way, the user is only billed for printing that is actually done. Furthermore, the rights, conditions and fees for printing the work are determined when the work is about to be printed.

Detailed Description Text (539):

BILLING CLEARINGHOUSE:

Detailed Description Text (540):

A financial institution or the like whose purpose is to reconcile billing information received from credit servers. The billing clearinghouse may generate bills to users or alternatively, credit and debit accounts involved in the commercial transactions.

Detailed Description Text (541):

BILLING TRANSACTIONS:

Detailed Description Text (542):

The protocol used by which a repository reports billing information to a credit

server.

Detailed Description Text (554):

A device which collects and reports billing information for a repository. In many implementations, this could be built as part of a repository. It requires a means for periodically communicating with a billing clearinghouse.

Other Reference Publication (16):

Sirbu, M.A., "Internet Billing Service Design and Prototype Implementation," IMA Intellectual Property Project Proceedings, Jan. 1994, vol. 1, Issue 1, pp. 67-80.

CLAIMS:

1. A system for controlling the distribution and use of digital works through a network, said system having a mechanism for reporting fees based on the distribution and use of digital works, said system comprising:

a digital work having attached usage rights, each of said usage rights for specifying how a digital work may be used or distributed, each of said usage rights specifying usage fee information, said usage fee information comprising a fee type and fee parameters which define a fee to be paid in connection with the exercise of said usage right;

a plurality of repositories, each of said repositories comprising:

an external interface for removably coupling to said network;

storage means for storing digital works having attached usage rights and fees;

requesting means for generating a request to access a digital work stored in another of said plurality of repositories, said request indicating a particular usage right;

processing means for processing requests to access digital works stored in said storage means and for generating fee transactions when a request indicates a usage right that is attached to a digital work and said usage right specifies usage fee information;

each of said plurality of repositories further removably coupled to a credit server, said credit server for recording fee transactions from said repository and subsequently reporting said fee transactions to a billing clearinghouse.

7. In a system for controlling the distribution and use of digital works, a method for reporting fees associated with said distribution and use, said method comprising the steps of:

a) attaching one or more usage rights to a digital work, each of said one or more usage rights comprising an indicator of how said digital work may be distributed or used and a usage fee to be paid upon exercise of said right;

b) storing said digital work and attached one or more usage rights in a server repository, said server repository for controlling access to said digital work;

c) said server repository receiving a request to access said digital work from a requesting repository;

d) said server repository identifying a usage right associated with said access request;

e) said server repository determining if said identified usage right is the same as

one of said one or more usage rights attached to said digital work;

f) if said identified usage right is not the same as any one of said one or more usage rights attached to said digital work, said server repository denying access to said digital work;

g) if said usage right is included with said digital work, said server repository determining if a usage fee is associated with the exercise of said usage right;

h) if a usage fee is associated with said usage right, said server repository calculating said usage fee;

i) said server repository transmitting a first assign fee transaction identifying said requesting repository as a payer for said usage fee to a first credit server;

j) said requesting repository transmitting a second assign fee transaction identifying said requesting repository as a payer for said usage fee to a second credit server;

k) said server repository transmitting said digital work to said requesting repository;

l) said server repository transmitting a first confirm fee transaction to said first credit server;

m) said requesting repository transmitting a second confirm fee transaction to said second credit server; and

n) said first credit server and said second credit server reporting said usage fee to a billing clearinghouse for payment of said usage fee.

8. In a system for controlling the distribution and use of digital works, method for reporting fees associated with said distribution and use, said method comprising the steps of:

a) attaching one or more usage rights to a digital work, each of said one or more usage rights comprising an indicator of how said digital work may be distributed or used and a usage fee to be paid for exercise of said right;

b) storing said digital work and said attached one or more usage rights in a server repository, said server repository for controlling access to said digital work;

c) said server repository receiving a request to access said digital work from a requesting repository;

d) said server repository identifying a usage right associated with said access request;

e) said server repository determining if said digital work has attached thereto said identified usage right;

f) if said identified usage right is not attached to said digital work, said server repository denying access to said digital work;

g) if said usage right is attached to said digital work, said server repository determining if a usage fee is associated with the exercise of said usage right;

h) if a usage fee is associated with said usage right, said server repository determining a fee type;

- i) said server repository transmitting a first fee transaction identifying said requesting repository as a payee for said usage fee to a first credit server, said first fee transaction dependent on said determined fee type;
- j) said requesting repository transmitting a second fee transaction identifying said requesting repository as a payee for said usage fee to a second credit server, said second fee transaction dependent on said determined fee type;
- k) said server repository transmitting said digital work to said requesting repository;
- l) said first credit server reporting said first fee transaction to a billing clearinghouse; and
- m) said second credit server reporting said second fee transaction to said billing clearinghouse.

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